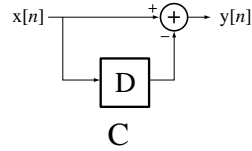
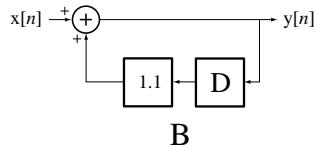
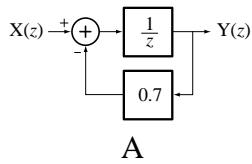


Solution of ECE 316 Test #13 S03 4/23/03 #1

Below are some descriptions of DT systems in different forms. Answer the following questions about them. (If no system fits a description just write “none”.)

1. Which of these systems have a finite-duration impulse response? CEG
2. Which of these systems are unstable (including marginally-stable)?BDH
3. Which of these systems have one or more zeros on the unit circle? CDEG



$$H(z) = \frac{z-1}{z+1}$$

D

$$y[n] = x[n] + x[n-1]$$

E

$$2y[n] - y[n-1] = x[n]$$

F

$$H(z) = \frac{z^2 + z + 1}{z^2}$$

G

$$Y(z) = X(z) - 0.8z^{-1}Y(z) + 1.1z^{-2}Y(z)$$

H